3.9000

66576

SOV/49-59-9-6/25

AUTHORS: Kogan, R. M., and Nazarov, I. M

TITLE: On the Accuracy of Measurements of Non-stationary Radioactive Radiation Fields

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 9, pp 1353-1358 (USSR)

ABSTRACT: In geophysical studies one often has to deal with cases in which the radioactive radiation field recorded by the detector is a function of time. This may be due to changes in the emission or absorption properties of the medium, changes in the distance between the detector and the radiating source, or a combination of these factors. The radioactive radiation field is defined as non-stationary when the above general situation occurs. The mean counting rate recorded by the detector is denoted by F(t), where the maximum value of F(t) is n_0. It follows that $F(t) = n_0 f(t)$, where $f(t) \leq 1$. The main limitation which is imposed on F(t) in this discussion is that the dispersion of F(t) during the time interval $t \rightarrow t + dt$ is F(t)dt and the dispersion of the interval t_1, t_2 is

$$\int_{t_1}^{t} F(t)\,dt,$$

4

Card 1/4

Inst. Applied Geophysics, AS USSR

On the Accuracy of Measurements of Non-stationary Radioactive Radiation Fields

(Refs 1 and 2). It may be shown that the above limitation is justified in geophysical observations in many important practical cases. The limitation is not, however, justified when the time of observation is comparable with the half-life of the radioactive substance and this was not taken into account in the work of Shiff and Evans (Ref 3). Under the above condition it is interesting to determine the dispersion in the counting rate for devices having an inertia. The most widely employed inertial system uses an RC integrating element (Ref 4). The determination of the dispersion of the recorded counting rate for such a system is investigated in the present paper. The results obtained are summarised in Table 1. The first column of this table gives the type of the field investigated, the second column gives the parameters employed and the third the recorded counting rate and its dispersion for $t_0 \to -\infty$, where t_0 is the time at which the measurements on the radiation field begin. The following cases are considered: 1) constant field, $f(t) = 1$; 2) rectangular pulse $f(t) = 0, 1$ for $T < t < 0$ and $T \geqslant t \geqslant 0$,

On the Accuracy of Measurements of Non-stationary Radioactive Radiation Fields

respectively; 3) series of periodically repeating rectangular pulses; 4) gaussian curve $f(t) = \exp(-\beta^2 t^2)$; 5) an exponential pulse $f(t) = \exp(-\lambda t)$ for $t > 0$ and $f(t) = 0$ for $t < 0$; 6) a pulse of the form $f(t) = 1 - \exp(-\lambda t)$. In each of these cases the dispersion D given by Eq (4) is calculated and is given explicitly in column 3 of Table 1. In practice, the fields under investigation are always recorded in the presence of a constant background field. If the background is high and the anomalous field low, then it is important to choose a time constant so that one obtains the best discrimination against the background. The appropriate calculations have been carried out by the authors and these are summarised in Figs 1 and 2, which give nomograms for the optimum values of the time constant under different conditions. There are 2 figures, 1 table and 8 references, 4 of which are Soviet (1 translation from English) and 4 English.

KOGAN, R.M.

81978

S/120/60/000/03/003/055
E032/E514

246810

AUTHOR: Kogan, R.M.

TITLE: Errors in Measurements of the Intensity of Monochromatic Gamma Radiation Using a Scintillation Spectrometer

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No 3, pp 19-22

ABSTRACT: An expression is derived for the statistical error in measurements of the intensity of the monochromatic component of a gamma field using a scintillation spectrometer. It is assumed that the pulse amplitude distribution for the photopeak is gaussian, while the noise level in the region of the photopeak remains constant. A condition is found which gives a minimum error. A relation is established between the recorded effect, the spectrometer parameters, and the minimum statistical error in the measured intensity of the monochromatic component of a gamma field.
There are 2 figures and 2 references, 1 of which is Soviet and 1 Swedish.

ASSOCIATION: Institut prikladnoy geofiziki AN SSSR (Institute of Applied Geophysics, Ac.Sc., USSR)

4

SUBMITTED: April 23, 1959

Card 1/1

S/049/60/000/004/004/018
E032/E514

AUTHORS: Kogan, R.M. and Fridman, Sh.D.

TITLE: The Energy Distribution of γ-Rays in the Atmospheric Layer Near the Earth's Surface

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1960, No.4, pp.530-547 (USSR)

TEXT: The energy distribution of γ-rays in a layer a few hundred metres thick and lying immediately above the Earth's surface is calculated. A layered model of the atmosphere is employed in which the concentration of the γ sources and the density of the absorbing medium is a function of z only. The calculation is carried out for source and energy distributions which satisfactorily explain real conditions in the energy range 0.15 to 2.5 MeV. The sources of radiation are taken to be radioactive elements of the uranium and thorium series, and also radioactive potassium distributed uniformly in the upper layers of rocks, orradioactive elements with given γ-ray energy deposited in the form of a thin uniform film on the separation boundary between rocks and the atmosphere. Extensive calculations have been carried out for different numerical values of source and

Card 1/2

S/049/60/000/004/004/018
E032/E514

The Energy Distribution of γ-Rays in the Atmospheric Layer Near the Earth's Surface

absorption parameters and these are summarized in eleven graphs and seven tables. An estimate is also made of the effect of the form of the γ field on isotropic γ-ray detectors. There are 11 figures and 7 tables and 9 references: 7 Soviet and 2 English.

ASSOCIATION: Akademiya nauk SSSR Institut prikladnoy geofiziki (Academy of Sciences USSR, Institute of Applied Geophysics)

SUBMITTED: June 19, 1959

Card 2/2

KOGAN, R.M.; FRIDMAN, Sh.D.

Investigating mixtures of radioactive elements with threshold spectrometers. Izv. AN SSSR. Ser.geofiz. no.6:809-817 Je '60. (MIRA 13:6)

1. Akademiya nauk SSSR. Institut prikladnoy geofiziki.
(Radioactive substances--Spectra)

KOGAN, R.M.

Error in the measurement of the intensity of monochromatic gamma radiation with a scintillation spectrometer. Prib. i tekh. eksp. no.3:19-22 My-Je '60. (MIRA 14:10)

1. Institut prikladnoy geofiziki AN SSSR.
(Gamma-ray spectrometry)

KOGAN, M.I. [deceased]; BELYAKOVA, M.S.; SAVOST'YANOV, G.I.; KOGAN, R.M.; RADETSKAYA, N.V.

Biochemical oxidation of d-sorbite in l-sorbose in a continuous disc-column fermenter. Trudy VNIVI 8:22-35 '61. (MIRA 14:9)
(Sorbitol) (Sorbose)

KOGAN, R.M.; NIKIFOROV, M.V.; FRIDMAN, Sh.D.

Determining the potassium content in soils by gamma rays. Pochvovedenie no.8:92-98 Ag '61. (MIRA 14:11)

1. Institut prikladnoy geofiziki AN SSSR.
(Soils--Potassium content)

BALYASNYY, N.D.; KOGAN, R.M.; NIKIFOROV, M.V.; RENNE, O.S.; FRIDMAN, Sh.D.

Radioisotopic analysis of rocks and soils from the energy spectrum of gamma rays in the troposphere. Dokl. AN SSSR 140 no.4:807-810 O '61. (MIRA 14:9)

1. Institut prikladnoy geofiziki AN SSSR. Predstavleno akademikom Ye.K.Fedorovym.
(Radioisotopes--Analysis) (Gamma-ray spectrometry)

BALYASNYY, N.D.; KOGAN, R.M.; RENNE, O.S.; FRIDMAN, Sh.D.

Experience in determining RaC', ThC'' and K^{40} in homogenous granitoids from the energy composition of γ-rays. Izv. AN SSSR. Ser.geofiz. no.5:664-676 My '62. (MIRA 15:8)

1. Institut prikladnoy geofiziki AN SSSR.
(Radioisotopes) (Gamma rays)

IZRAEL, Yu.A.; KOGAN, R.M.; FRIDMAN, Sh.D.

Deformation of the gamma field in the lowest atmospheric layer determined by a forest cover. Izv.AN SSSR.Ser.geofiz. no.8:1126-1135 Ag '62. (MIRA 15:8)

1. Institut prikladnoy geofiziki AN SSSR.
(Gamma rays) (Forests and forestry—Valuation)

BALYASNYY, M.D.; VASILENKO, V.N.; KOGAN, R.M.; FRIDMAN, Sh.D.

Using the spectrum of gamma rays for detecting the dispersion halos of radium. Izv.AN SSSR.Ser.geofiz. no.4:596-605 Ap '63. (MIRA 16:4)

(Radium) (Geochemistry)
(Gamma rays—Industrial applications)

VASILENKO, V.N.; DMITRIYEV, A.V.; IONOV, V.A.; KOGAN, R.M.; NAZAROV, I.M.; FRIDMAN, Sh.D.

Using the gamma-ray spectrum surveying method in geology.
Sov. geol. 6 no.10:47-62 O. '63. (MIRA 17:1)

1. Institut prikladnoy geofiziki AN SSSR.

BOLTNEVA, L. I.; VASILENKO, V. N.; DMITRIYEV, A. V.; IONOV, V. A.; KOGAN, R. M.; KUZNETSOVA, Z. V.; NAZAROV, I. M.; YAGODOVSKIY, I. V.

Use of the method of air-borne gamma-spectrometry in studying the radioactivity of granitoid intrusives. Izv. AN SSSR. Ser. geofiz. no.6:858-871 Je '64. (MIRA 17:7)

KOGAN, R.M., kand.tekhn.nauk; NIKIFOROV, M.V.; FRIDMAN, Sh.D., kand.tekhn. nauk; CHIRKOV, V.P.; YAKOVLEV, A.F., kand.fiz.-matem.nauk

Determining the water equivalent of snow cover by means of airplane gamma surveys. Meteor. i gidrol. no.4:51-55 Ap '65. (MIRA 18:4)

1. Institut prikladnoy geofiziki AN SSSR.

BERLYAND, O.S.; KIRICHENKO, L.V.; KOGAN, R.M.

Theory of McDonald's incomplete functions. Dokl. AN SSSR 160 no.2: 306-307 Ja '65. (MIRA 18:2)

1. Institut prikladnoy geofiziki AN SSSR. Submitted July 6, 1964.

L 3233-66 FSS-2/EWT(l)/FS(v)-3/FCC/EWA(d)/EWA(h) TT/OS/GW
ACCESSION NR: AT5023630 UR/0000/65/000/000/0510/0510

AUTHORS: Avdyushin, S. I.; Kogan, R. M.; Nazarova, M. N.; Pereyaslova, N. K.; Petrenko, I. Ye.; Svidskiy, P. M.

TITLE: Recording of cosmic rays on the satellite Kosmos-17

SOURCE: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva. Moscow, 1965. Issledovaniya kosmicheskogo prostranstva (Space research); trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 510

TOPIC TAGS: artificial earth satellite, cosmic ray, scintillation counter, Geiger counter/Kosmos 17 satellite, Kosmos 7 satellite, Explorer 7 satellite

ABSTRACT: In May 1963 scintillation and Geiger counters were used to measure the intensity of cosmic radiation outside the Van Allen belt at altitudes of 260–280 km. The dependence of radiation intensity on the invariant coordinate L was determined. The flux of charged particles was observed to change from 0.5 particles per cm^2 per sec in the equatorial region to 3.0 particles per cm^2 per sec in high latitudes. The gamma-quanta flux in the energy range from 0.1 to 3 Mev was found to range from 9 to 22 quanta per cm^2 per sec. The edge of the high-latitude plateau of cosmic ray intensity lies at L = 3.0. Results were compared with data from other

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L 3233-66
ACCESSION NR: AT5023630

satellites. Various combinations of scintillation and Geiger counters were used. On the assumption that particle density has the form $f(n)dn = Ae^{-\lambda n}dn$, where $A = 1.3 \cdot 10^2$ per cm^2 per sec and $\lambda = 26$ cm^2, all results are in agreement. The ratio of gamma quanta to charged particles does not depend on n; its value is 11.3. An absence of any latitudinal relationship in number of cosmic ray showers indicates that the recorded showers are generated chiefly by particles with energies exceeding 30 Bev. The total number of recorded showers leads to the conclusion that the energy threshold for generation of showers is below 60 Bev. The average gamma-quantum energy in the showers is 4.6 Mev. Considering that the contribution of a shower is 0.3 the total counting rate of a single Geiger counter, comparison of counting rates in different areas indicates a particle density in the equatorial region of 0.01, the number of showers to be 15 per cm^2 per sec, and the divergence of particles in the shower to be 15—20°. [04]

ASSOCIATION: none

SUBMITTED: 02Sep65 ENCL: 00 SUB CODE: AA, SV

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4106

Card 2/2

DMITRIYEV, A.V.; NIKIFOROV, M.V.; KOGAN, R.M., kand. tekhn. nauk;
FRIDMAN, Sh.D., kand. tekhn. nauk

Determining moisture of soils by their gamma-radiation. Meteor.
i gidrol. no.7:56-58 Jl '65. (MIRA 18:6)

1. Institut prikladnoy geofiziki AN SSSR.

L 23432-66 FSS-2/EWT(l)/FCC/EWA(d)/EWA(h) IT/GW
ACC NR: AP6012832 SOURCE CODE: UR/0293/66/004/002/0268/0279

AUTHOR: Avdyushin, S. I.; Kogan, R. M.; Nazarova, M. N.; Pereyaslova, N. K.; Petrenko, I. Ye.; Svidskiy, P. M.

ORG: none

TITLE: Recording cosmic rays by the Cosmos-17 satellite

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 2, 1966, 268-279

TOPIC TAGS: cosmic ray, cosmic ray measurement, cosmic ray shower/Cosmos 17

ABSTRACT: Scintillation counters, STS-5 Geiger counters, and SBT-9 end-window Geiger counters were used on Cosmos-17 to record the intensity of cosmic radiation beyond the Earth's radiation belts as a function of L coordinates. The average radiation intensity was found to vary from 0.5 to 3.0/cm^2/sec for charged particles and from 9 to 22/cm^2/sec for gamma quanta. A high-latitude chopping of the cosmic ray spectrum was observed for hardness R = 1.8. A cosmic ray "equator" was constructed for altitudes of 400—600 km. Cosmic ray showers produced by the interaction of high-energy particles with the satellite body at angles of divergence exceeding 60° were also recorded. The showers had the following average characteristics: particle density, 0.038/cm^2; total number of particles, 10^2; ratio of the number of photons to the number of corpuscles, 11.3. Orig. art. has: 4 figures and 2 tables. [JR]

SUB CODE: 07/ SUBM DATE: 19Apr65/ ORIG REF: 010/ OTH REF: 005/ ATD PRESS: 4235

Card 1/1 UDC: 537.591:629.19

BOLTNEVA, L.I.; BUYANOVA, L.I.; DMITRIYEV, A.V.; IONOV, V.A.; KOGAN, R.M.; NAZAROV, L.M.

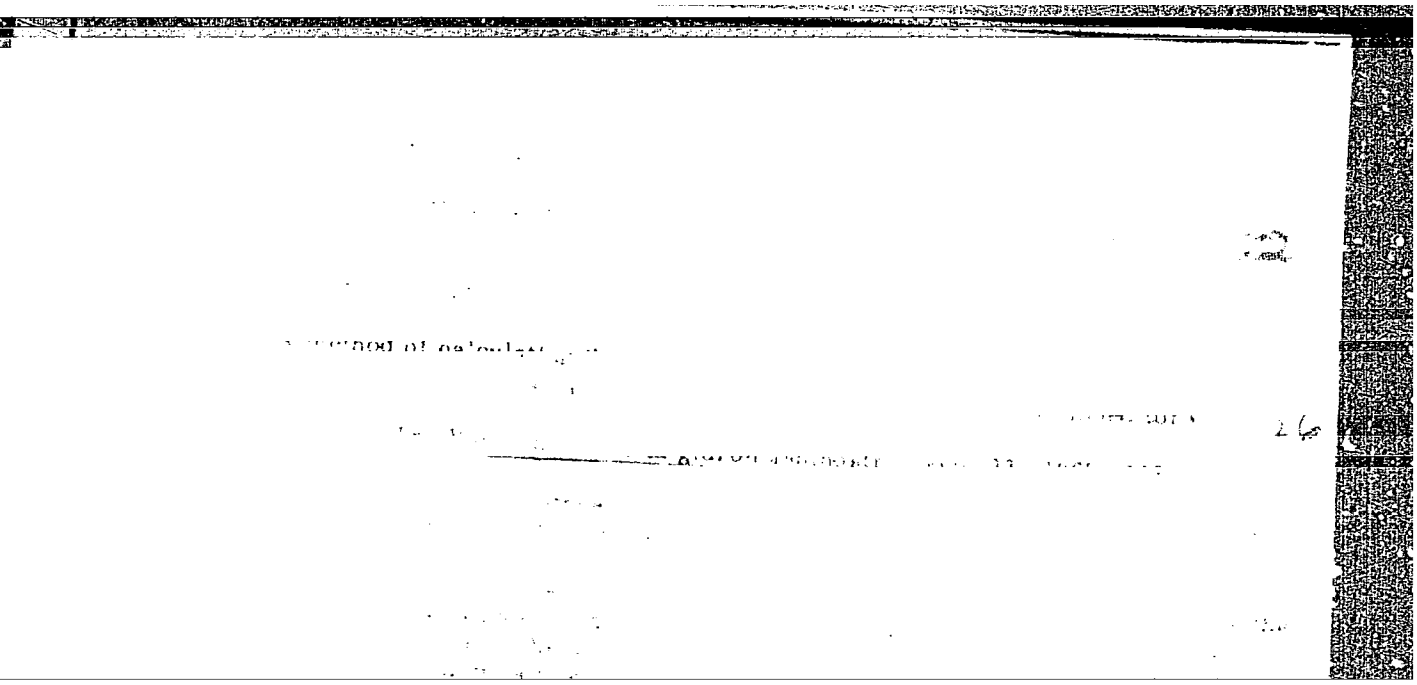
Radioactivity of sands in Central Asia. Dokl. AN SSSR 165 no.1:183-186 N '65. (MIRA 18:10)

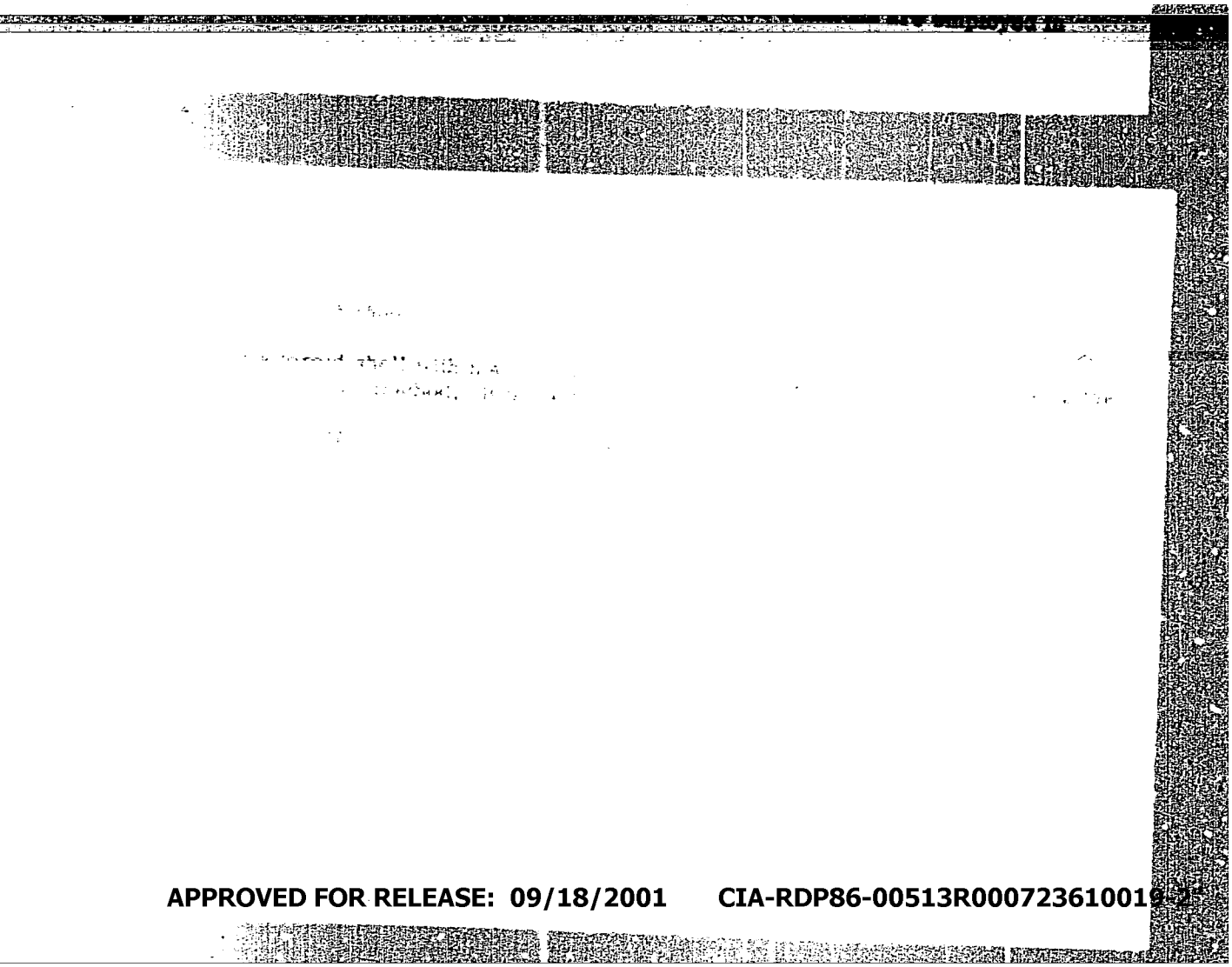
1. Submitted March 16, 1965.

DZHAVAD-ZADE, M.D., doktor med. nauk; KOGAN, R.M.

Periarteritis nodosa of the bladder. Urologiia no.6:55-58 N-D '63. (MIRA 17:9)

1. Iz urologicheskoy kliniki (zav.- prof. A.Ya. Pytel') II Moskovskogo meditsinskogo instituta imeni Pirogova.





ACCESSION NR: AR4015137 S/0124/63/000/012/V008/V008

SOURCE: RZh. Mekhanika, Abs. 12V60

AUTHOR: Kogan, R.M.

TITLE: Computation of a conical shell of constant thickness with axially-symmetrical stresses in tabular values of Thomson functions

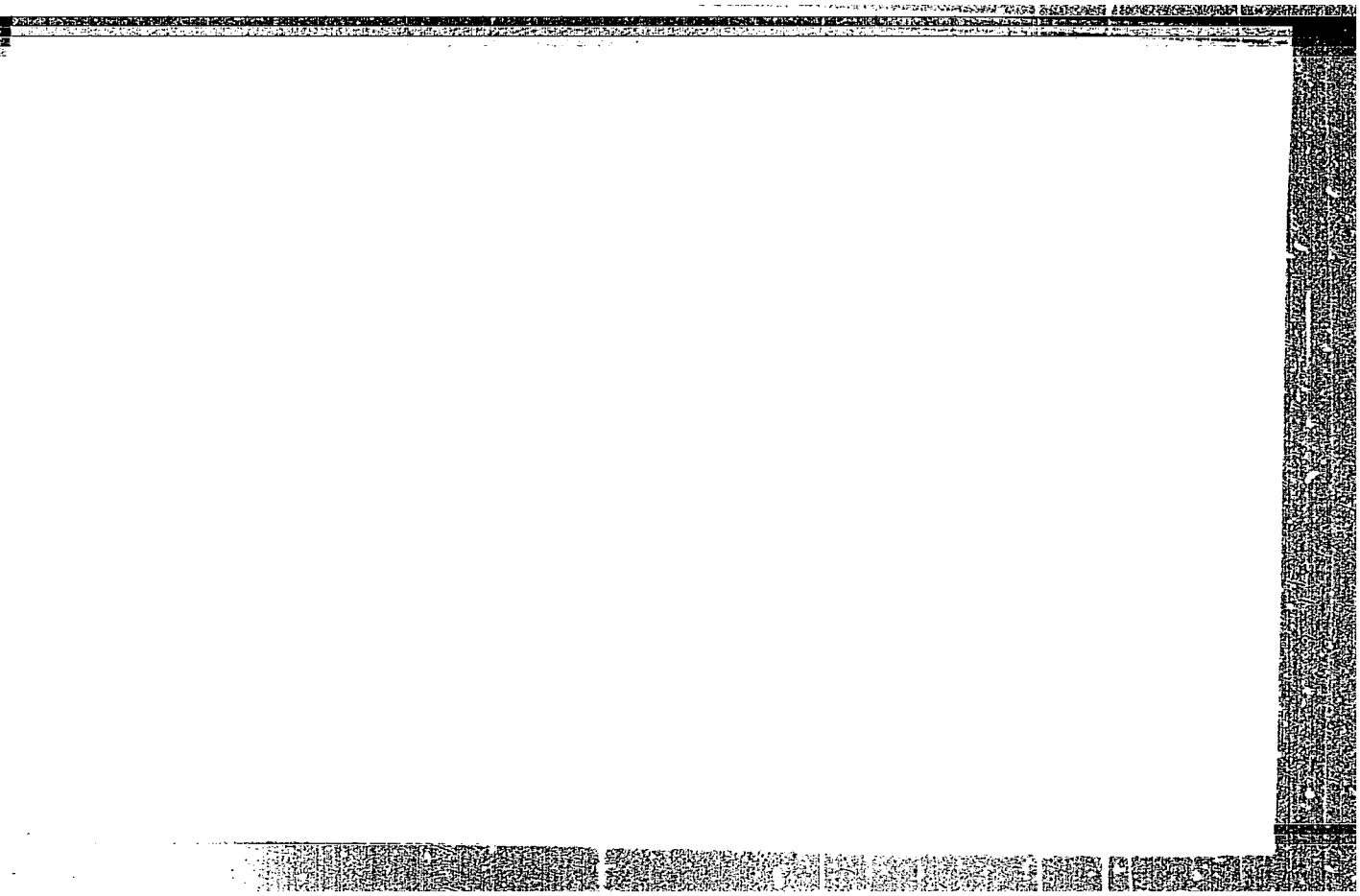
CITED SOURCE: Tr. Vses. n.-i. in-ta gidromashinostr., vy*p. 31, 1962, 69-74

TOPIC TAGS: conical shell, cone elasticity, Thomson function

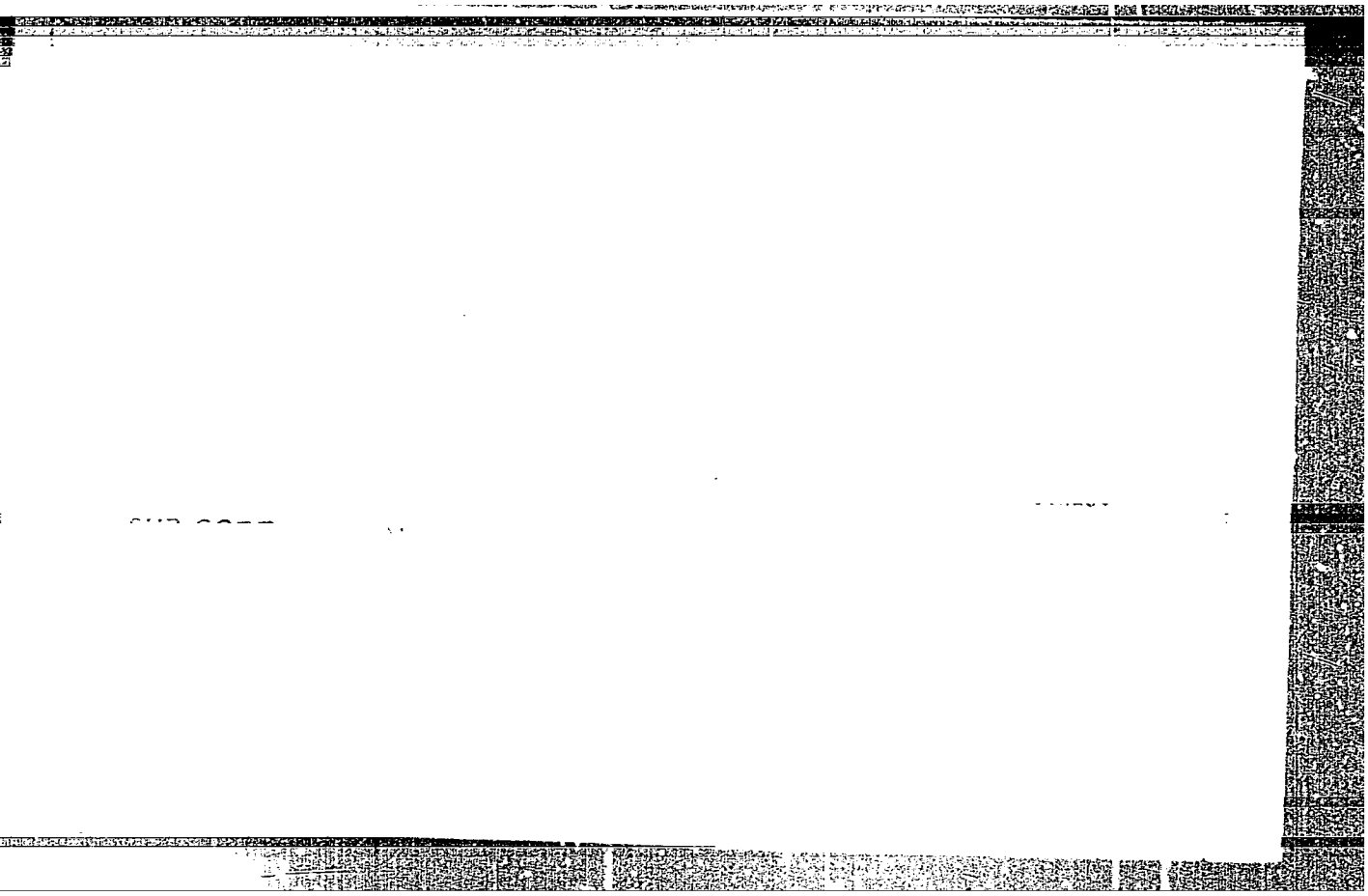
TRANSLATION: The proceeds on the basis of the well-known Bessel equation with index 2 which describes the bending of the conical shell under the action of a load symmetrical with respect to the shell axis. The author uses relations among the Bessel, Hankel, and Thomson functions and transforms the solution to a form which simplifies the tabulation of computed values of the stresses in a conical shell. A numerical example of the computation of a rotating conical shell is presented. D.V. Vaynberg.

DATE ACQ: 31Dec63 SUB CODE: PH, MM ENCL: 00

Card 1/1



APPROVED FOR RELEASE: 09/18/2001 CIA-RDP86-00513R000723610019-2"



APPROVED FOR RELEASE: 09/18/2001 CIA-RDP86-00513R000723610019-2"

SHAKHMALIYEV, G.M.; KOGAN, R.N.

Determination of the elements of a tachogram in efficient lowering of drilling tools. Neft. khoz. 40 no.1:17-21 Ja '62. (MIRA 15:2)

(Oil well drilling)
(Tachometer)

GRUZINOV, Ya.A.; KOGAN, R.N.

Dependence of the braking moment on the design parameters of the brake of a drilling draw works. Mash. i neft. obor. no.8:17-20 '64.
(MIRA 17:11)

1. AzNIIburneft'.

SHAKHMALIYEV, G.M.; GRUZINOV, Ya.A.; KOGAN, R.N.

Efficient lowering of the drilling tool in the simultaneous operation of power and hydraulic brakes of draw works. Sbor. nauch.-tekh. inform. Azerb. inst. nauch.-tekh. inform. Ser. Neft. prom. no.4:15-32 '63. (MIRA 18:9)

KOGAN, R. P.

"Case of Lipoid Nephrosis Complicated with Extensive Chronic Necrosis of the Tissues in the Mesogastric Region," Arkhiv. Patol., 10, 4, 1948.

Pathological Anatomy Dept, im. A. I. Baranov, 1st Moscow Municipal Hosp. im. Pirogov.

KOGAN, R.P.

KURASHOVA, M.V., kandidat meditsinskikh nauk; KOGAN, R.P. (Moskva)

Angiosarcoma of the heart. Klin.med. 34 no.11:77-79 N '56.
(MLRA 10:2)

1. Iz kafedry fakul'tetskoy terapii (zav. - deystvitel'nyy chlen AMN SSSR prof. A.I.Nesterov) II Moskovskogo meditsinskogo instituta imeni I.V.Stalina i 1-y gorodskoy klinicheskoy bol'nitsy imeni Pirogova (glavnyy vrach - zasluzhennyy vrach RSFSR L.D. Chernychov)

(ANGIOSARCOMA, case reports
heart)
(HEART, neoplasms
angiosarcoma)

Disease history of a female 59 years old with angiosarcoma of the heart is reported. The difficulty of the diagnostic of the disease in question is stressed and a description of the main disease symptoms is given.

USSR/General Problems of Pathology - Comparative Oncology. Tumors of Man. U-3

Abs Jour : Ref Zhur - Biol., No 16, 1958, 75520

Author : Kogan, R.P.
Inst :
Title : Tumors of the Heart.

Orig Pub : Arkhiv patologii, 1957, 19, No 1, 66-70

Abstract : In the pathologico-anatomical Division of the First Moscow City Hospital cardiac tumors were found 6 times during 15 years. The age of patients was 17-72 years. Diagnosis was made post mortem. In 5 cases there were polyps of atria of various dimensions. All tumors had similar structure and contained rempants of a thrombotic mass with hemosiderine accumulation. They should not be evaluated as true tumors, but as organized thrombi. Only once was a tru tumors discovered- angiosarcoma of right atrium in a woman of 39 with metastases into lungs and hemorrhagic pericarditis.

-- L.I. Ashkenazi.

Card 1/1

KOGAN, R.P.

Changes in the ocular funus in hypertension. Sov.med. 22 no.4:82-86 Ap '58 (MIRA 11:?)

1. Iz Moskovskoy gorodskoy klinicheskoy bol'nitsy No.1 imeni N.I. Pirogova (glavnyy vrach - zasluzhennyy vrach RSFSR L.D. Chernyshov, nauchnyy rukovoditel' - prof. Ya.L. Rapoport).

(HYPERTENSION, manifest
ocular fundus (Rus))
(EYE, pathol.
fundus in hypertension (Rus))

KOGAN, R.P. (Moskva)

Tumors of the heart. Arkh. pat. 19 no.1:66-70 '57 (MLRA 10:4)

1. Iz patologoanatomicheskogo otdeleniya imeni A.I. Baranova (zav.-kandidat meditsinskikh nauk N.V. Arkhangel'skaya) Gorodskoi klinicheskoy bol'nitsy No 1 imeni N.I. Pirogova (glavnyy vrach-zaslushennyy vrach RSFSR L.D. Chernyshev)
(HEART, neoplasms,
case reports)

KOGAN, R.P. (Moskva)

Mutually-induced tumors of the endocrine system. Arkh.pat. 22 no.7: 63-67 '60. (MIRA 14:1)

1. Iz patologoanatomicheskogo otdeleniya (nauchnyy rukovoditel' - prof. Ya.L. Rapoport) gorodskoy klinicheskoy bol'nitsy No.1 imeni N.I.Pirogova.

(PITUITARY GLAND--CANCER) (OVARIES--TUMORS)

FEDOTOVA, T.A.; KOGAN, R.P.

Vascular system of the eye in congenital defects of the tricuspid valve (Ebstein's anomaly) according to clinico-morphological data. Vest. oft. 73 no. 5:28-32 S-O '60. (MIRA 14:1)
(HEART—ABNORMITIES AND DEFORMITIES)
(EYE—BLOOD SUPPLY)

KOGAN, R.P.; ZAK, I.R.

Two cases of complications related to the transfusion of Rh-incompatible blood. Sov.med. 25 no.4:137-141 Ap '61. (MIRA 14:6)

1. Iz akushersko-ginekologicheskoy kliniki (zav. - zasluzhennyy deyatel' nauki BSSR prof. L.S.Persianinov) lechebnogo fakul'teta II Moskovskogo meditsinskogo instituta imeni Pirogova i patologo-anatomicheskogo otdeleniya (nauchnyy rukovoditel' - prof. Ya.L. Rapoport) Gorodskoy klinicheskoy bol'nitsy No.1 imeni Pirogoa (glavnyy vrach - zasluzhennyy vrach RSFSR L.D.Chernyshev).
(RH FACTOR) (BLOOD--TRANSFUSION)

SOBOLEVA, A. D.; KOGAN, R. P. (Moskva)

Rare congenital heart defect accompanied by glomerulonephritis. Arkh. pat. no.6:72-74 '61. (MIRA 14:12)

1. Iz Instituta grudnoy khirurgii AMN SSSR (dir. - prof. A. A. Busalov) i gorodskoy klinicheskoy bol'nitsy No. 1 imeni N. I. Pirogova (glavnyy vrach - zaslushennyy vrach RSFSR L. D. Chernyshov)

(HEART--ABNORMITIES AND DEFORMITIES)
(KIDNEYS--DISEASES)

FEDOTOVA, T.A. (Moskva, Khrushchevskiy per.,d.5,kv.23); KOGAN, R.P.

Clinicomorphological changes in the eye related to congenital vitium cordis of the cyanotic type. Grud. khir. 1 no.5:43-51 S-O '61. (MIRA 15:3)

1. Iz glaznogo i patologoanatomicheskogo otdeleniy Gorodskoy klinicheskoy bol'nitsy No.1 imeni Pirogova (glavnyy vrach - zasluzhennyy vrach RSFSR L.D. Chernyshev, nauchnyye rukovoditeli - prof. N.A. Pletneva i Ya.L. Rapoport).

(EYE--DISEASES AND DEFECTS)
(HEART--DISEASES)

FOTIN, A.F., kand.med.nauk; YUDOV, N.N.; KOGAN, R.P.

Malignant nonspecific granulomas of the nose. Vest.otorin. no.6:43-50 '61. (MIRA 15:1)

1. Iz kliniki bolezney ukha, nosa i gorla (dir. - deystvitel'nyy chlen AMN SSSR prof. B.S. Preobrazhenskiy) II Moskovskogo meditsinskogo instituta i 1-y moskovskoy klinicheskoy bol'nitsy imeni N.I. Pirogova.
(HODGKIN'S DISEASE) (NOSE--CANCER)

KAYGORODOVA, R. Ye.; KOGAN, R. P. (Moskva D-100, 4-ya Zvenigorodskaya ul., d. 8, kv. 30)

Benign tumor of the heart. Grud. khir. 4 no.3:85-87 My-Je '62. (MIRA 15:7)

1. Iz kafedry fakul'tetskoy terapii pediatricheskogo fakul'teta II Moskovskogo gosudarstvennogo meditsinskogo instituta imeni N. I. Pirogova (zav. - prof. M. I. Zologova-Kostomarova) i 1-y Gorodskoy klinicheskoy bol'nitsy imeni N. I. Pirogova (glavnyy vrach - zasluzhennyy vrach RSFSR L. D. Chernyshev, nauchnyy rukovoditel' Ya. L. Rapoport)

(HEART--TUMORS)

KOGAN, R. S.

CA

PROCESSES AND PROPERTIES INDEX

17

Simplified method of fortifying petrolatum and fats with carotene. S. I. Vinokurov and R. S. Kogan (Ukrainian Nutrition Inst., Kiev). *Farmatsiya* 10, No. 1, 31-2 (1947).—Carotene is extd. from potato leaves, nettles, beets and conifer needles with fish oil or petrolatum, e.g., 3 successive extns. of pine needles with 15 parts petrolatum (1 part fresh needles each time), 40 min. at 70°. Stripped moist leaves rapidly lose carotene; dry leaves retain 70-80% after 6 months in storage. In exts. carotene stability is apparently related to peroxide no.; observed losses in 3 months and the corresponding peroxide nos. were: fish oil 46%, 0.8; sunflower-seed oil 18%, 0.3; petrolatum 7%, 0.01. Carotenized petrolatum is suggested for treating burns, soft granulation in wounds, and Orr's inflammatory osteomyelitis. I. F. R.

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

KOGAN, R. E.

"Inductive Action of Medulla Oblongata of the Body Epithelium of Amphibiae," Dokl. Ak. Nauk SSSR, 23, 3, 1939.

Inst. Experimental Morphogenesis, Moscow State Univ.

KOGAN, R.Ye.

Influence of the influenza virus on a culture of the inner ear of a chick embryo. Trudy gos.nauch.-issl.inst.ukha, gorla i nosa. 6:157-165 '55. (MIRA 12:10)

1. Iz otdela morfologii (nauchnyy rukovoditel' - prof.Ya.A. Vinnikov) Gosudarstvennogo nauchno-issledovatel'skogo instituta ukha, gorla i nosa.
(BACTERIOLOGY--CULTURES AND CULTURE MEDIA) (INFLUENZA)

ACCESSION NR: AT4042691 S/0000/63/000/000/0261/0265

AUTHOR: Kogan, R. Ye.; Markaryan, S. S.

TITLE: Morphological changes arising in the labyrinths of dogs under the influence of radial accelerations

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy* konferentsii. Moscow, 1963, 261-265

TOPIC TAGS: acceleration stress, acceleration effect, labyrinth, morphological change, dog, longitudinal acceleration, middle ear

ABSTRACT: Three groups of experiments were performed in order to determine what morphological changes are caused in the labyrinths of dogs by longitudinal acceleration stress. In the first series, dogs were subjected to acceleration stress of 6--14 g from 8 to 18 min with the axis of rotation passing through the head. In a second group of experiments, dogs were subjected to acceleration stress of 10--13.5 g lasting from 7 to 17 min with the axis of rotation passing through the heart. In the third group, dogs were exposed to accelerations of 2.3--5.7 g for

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ACCESSION NR: AT4042691

16 to 17 min with the axis of rotation passing through the pelvis. When the action of acceleration was in the head-pelvis or pelvis-head direction (groups I and III), the average magnitudes and durations of acceleration to which they were subjected produced hemorrhages in the middle and inner ears of the animals. In the inner ear, hemorrhages arise in the perilymphatic spaces of the cochlea and the sacculus. Dogs which perished during experiments with the axis of rotation passing through the heart did not show any hemorrhages in the middle or inner ears.

ASSOCIATION: none

SUBMITTED: 27Sep63 ENCL: 00 SUB CODE: LS

NO REF SOV: 000 OTHER: 000

Card 2/2

KOGAN, R.E.

GULDINA, E. I., KOGAN, R. E.

Remote results of cautery of pleural adhesions in ineffective pneumothorax. Probl. tuberk., Moskva No. 3, May-June 50, p. 42-6

1. Of Moscow Municipal Scientific-Research Tuberculosis Institute (Director--Prof. V. L. Kynis) and of the No. 8 Tuberculosis Dispensary (Head--Honored Physician RSFSR Ya. M. Gimmel'farb).

CLML 19, 5, Nov., 1950

SORKIN, M.Z.

Case of spontaneous pneumothorax in a solitary lung. Probl.tub. 37 no.6:99-101 '59. (MIRA 13:2)

1. Iz khirurgicheskogo otdeleniya (zaveduyushchiy - kand.med.nauk R.E. Kogan) Moskovskoy gorodskoy tsentral'noy klinicheskoy tuberkuleznoy bol'nitsy (glavnyy vrach - prof. V.L. Rynis) i khirurgicheskoy kliniki Instituta tuberkuleza AMN SSSR (zaveduyushchiy - prof. L.K. Bogush).

(LUNGS abnorm.)
(PNEUMOTHORAX compl.)

KOGAN, R. E.
KAGALOVSKIY, G.M.

Forceps for grasping the pleura. Probl. tub. 36 no.8:98 '58
(MIRA 12:7)

1. Iz khirurgicheskogo otdeleniya (zav. - kand. med. nauk R. E. Kogan Moskovskoy gorodskoy tsentral'noy klinicheskoy tuberkuleznoy bol'nitsy (glavnyy vrach - prof. V. L. Mynis)
(FORCEPS)

KALABINA, A.V.; KOGAN, R.Z.; GERBIK, V.I.

Synthesis and transformations of vinyl aryl ethers. Report No.14: Reaction of vinyl aryl ethers with organic acids. Izv. Fiz.-khim. nauch.-issl. inst. Irk. un. 4 no.2:167-189 '59. (MIRA 16:8)

(Ethers) (Acids, Organic)

BATYGIN, Aleksey Grigor'yevich, kand.ekonom.nauk; KOGAN, S., red.; BAKHTIYAROV, A., tekhn.red.

[The seven-year plan of Angren] Semiletka Angrena. Tashkent, Gos.izd-vo Uzbekskoi SSR, 1959. 25 p. (MIRA 14:1)
(Angren District--Economic policy)

SLUTSKER, A.; KOGAN, S.

Using filters made of the FPP-15-1,5 filtering material for estimating the performance of ventilating screens at flour mills. Muk.-elev. prom. 29 no.5:20-22 My '63. (MIRA 16:7)

1. Institut gigiyeny truda i professional'nykh zabolevaniy AMN SSSR (for Slutsker). 2. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti (for Kogan).
(Flour mills—Ventilation)

KRITS, Isak Gedal'yevich; KOGAN, S.A., red.; ABBASOV, T., tekhn. red.

[Progressive methods of working molded surfaces] Progresivnye sposoby obrabotki fasonnykh poverkhnostei. Tashkent, Gos. izd-vo Uzbekskoi SSR, 1962. 29 p. (MIRA 17:4)

ROZHDESTVENSKIY, Yevgeniy Dmitriyevich; KOGAN, S., red.; MEL'NIKOV, A., tekhn. red.

[Clayey soil as a material for rammed earth buildings] Glinistye grunty kak material dlia zemlebitnykh zdanii. Tashkent, Gos. izd-vo Uzbekskoi SSR, 1959. 118 p. (MIRA 14:11)
(Pisé)

KOGAN, S. A.

27985. KOGAN-YASNYY, V. N. i KOGAN, S. A. -- Otdalennyye rezul'taty khirurgicheskogo lecheniya yazvennoy bolezni. Trudy XIII vsesoyuz, S"yezda terapevtov. L., 1949, S. 133-44.

SO: Letopis' Zhurnal'nykh Statey. Vol. 37, 1949.

KOGAN S.A.

SHCHERBA, F.I.; KOGAN, S.A.

A method of inductotherny in the treatment of diabetic polyneuritis. Sov.med. 21 no.5:109-112 My '57. (MLRA 10:7)

1. Iz fizioterapevticheskogo otdeleniya (nauchnyy rukovoditel' - prof. V.A.Ivanov) i endokrinologicheskogo otdeleniya (zav. - N.I. TSyganova) Moskovskoy gorodskoy klinicheskoy ordena Lenina bol'nitsy imeni S.P.Botkina (glavnyy vrach - prof. A.N.Shabanov)
(DIABETES MELLITUS, compl.
polyneuritis, ther., inductotherny)
(FEVER THERAPY, in various dis.
inductotherny in diabetes mellitus)
(POLYNEURITIS, etiol. and pathogen.
diabetes mellitus, inductother.)

KOGAN, S.A.

Raschet razreznoi sheki raz''emnogo kilenchatogo vala zvezdoobraznogo divigatelia.

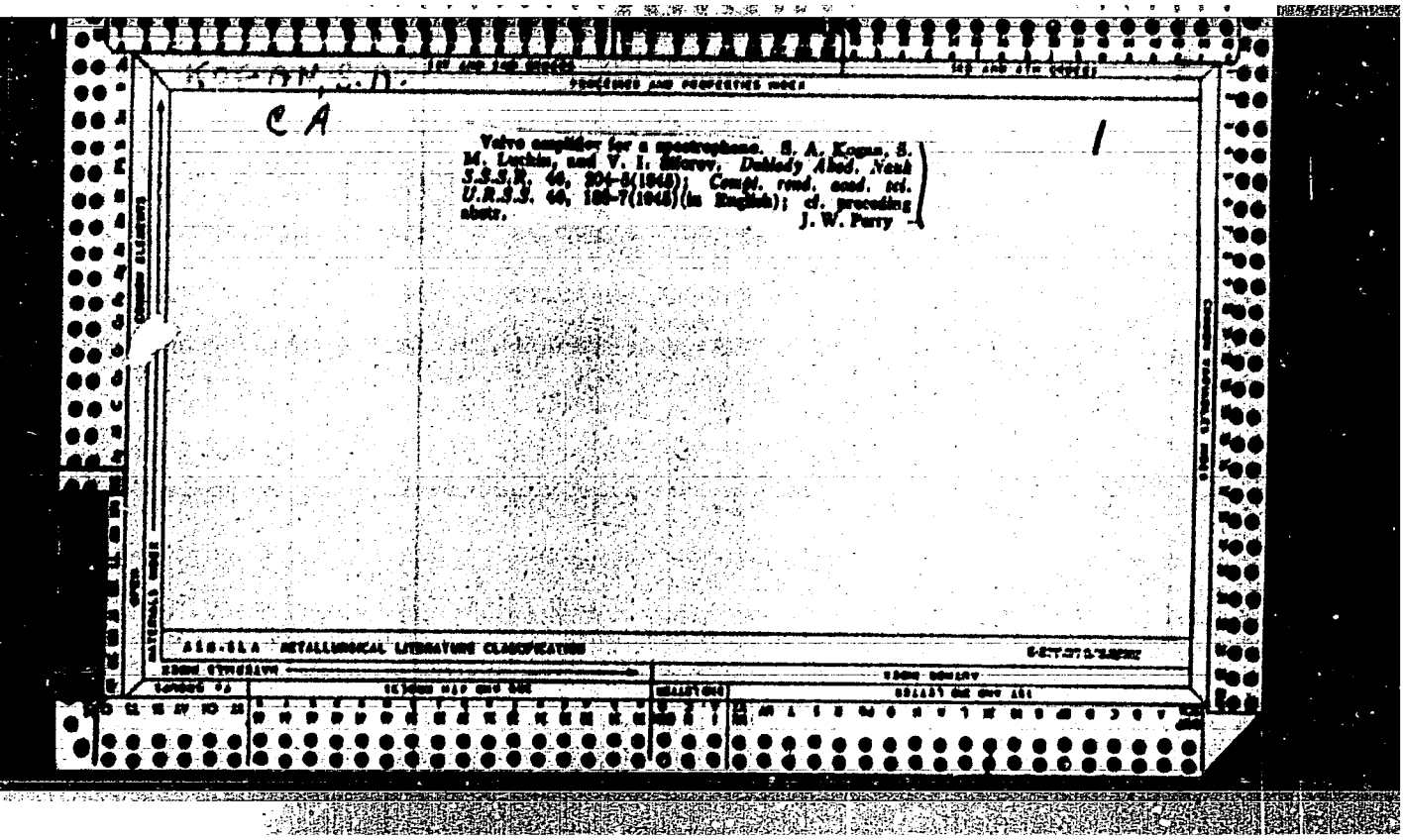
Moskva, Oborongiz, 1943. 72 p., illus. (TSIAM. Trudy, no.46)

Bibliography: p. 71.

Title tr.: Design of a split flange of a radial engine dismountable crankshaft.

TL701. A1M72 no.46

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, Washington D.C 1955



CA

1

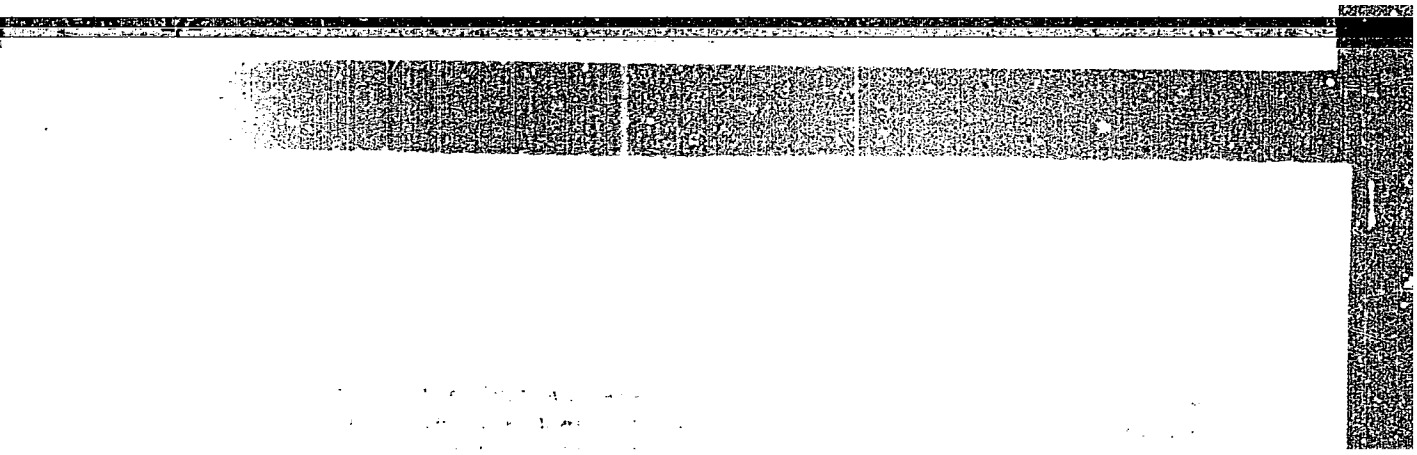
Valve amplifier for a spectrophone. S. A. Kozma, S. M. Lachin, and V. I. Sitarov, *Doklady Akad. Nauk S.S.S.R.* 44, 304–6(1944); *Compt. rend. acad. sci. U.R.S.S.* 44, 106–7(1944)(in English); cf. preceding abstr.

J. W. Perry

KOGAN, S.A.

SUBJECT USSR/MATHEMATICS/Algebra CARD 1/1 PG - 467
AUTHOR KOGAN S.A.
TITLE The solution of three problems of the lattice theory.
PERIODICAL Uspechi mat. Nauk 11, 2, 185-190 (1956)
reviewed 12/1956

The author solves the problems 21, 23 and 24 of the book of Birkhoff:"Lattice Theory". Solution of 21a: For no chain of its complements the element is permitted to be the smallest upper or the greatest lower bound. Solution of 21b: The element a must satisfy the following conditions: 1) In the set of elements which are smaller than a, there must exist a finite subset of elements which surrounds all elements of this set; 2) The set of elements which are greater than a, must satisfy the duality condition. 3) In the set of elements which are not incident with a, there must exist a finite subset of elements which are incendent with all elements of this set. Solution of 23: For each two different elements a_1 and a_2 in the complement A of the sum of the closed intervals $[-\infty, a_1 \cap a_2]$ and $[a_1 \cup a_2, +\infty]$ there must exist a finite subset the elements of which are incendent with all elements of A. Furthermore the solution of Problem 24 (known) is formulated without proof.



APPROVED FOR RELEASE: 09/18/2001 CIA-RDP86-00513R000723610019-2"

ZHINKIN, G.N. (Leningrad); KOGAN, S.A. (Leningrad); KALGANOV, V.F. (Leningrad); BOLDYREV, V.N. (Leningrad)

Practices in the electrosilicatization of soils in Leningrad. Osn., fund. i mekh.grun. 7 no.1:5-6 '65.

(MIRA 18:4)

BURSIAN, N.R.; KOGAN, S.B.; DAVYDOVA, Z.A.

Variations in the aromatization capacity of an aluminoplatinum catalyst as dependent on its platinum and sodium content. Kin. i kat. 6 no. 6:1046-1051 N-D '65 (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov "Vniineftekhim". Submitted November 28, 1964.

BURSIYAN, N.R.; KOGAN, S.B.; DAVYDOVA, Z.A.

Effect of sodium on the properties of a platinum-alumina catalyst. Kin. i kat. 6 no.4:744-746 Jl-Ag '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov.

ANDREYUK, Ye.I. [Andriiuk, K.I.]; KOGAN, S.B.

Effect of some environmental factors on the formation of heteroauxin by actinomycetes. Mikrobiol. zhur. 26 no.2: 45-51 '64. (MIRA 18:8)

1. Institut mikrobiologii AN UkrSSR.

BURSIAN, N.R.; KOGAN, S.B.; DAVYDOVA, Z.A.

Aromatization of hexanes at atmospheric pressure over a sodium promoted alumina-platinum catalyst. Kin.i kat. 4 no.5:783-786 S-O '63. (MIRA 16:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i polucheniyu iskusstvennogo zhidkogo topliva, Leningrad.

SMIRNOV, K.M.; BAKULIN, S.A.; GOLOVINA, L.L.; ZAK, M.Ya.; KOGAN, S.D.

Effect of competitive athletics on gas exchange, pulse rate, arterial pressure and work capacity in humans. Fiziol.zhur. 45 no.3:289-294 '59. (MIRA 12:11)

1. From the Postgraduate Medical Institute, Leningrad, and the Central Institute of Physical Culture, Moscow.

(ATHLETICS,
blood pressure, pulse rate, resp. & work capacity in athletes (Rus))
(BLOOD PRESSURE,
in athletes (Rus))
(RESPIRATION,
same)
(WORKING,
capacity in athletes (Rus))
(PULSE,
in athletes (Rus))

KOGAN, S. D.

USSR/Geophysics - Epicenter Azimuth 1952

"Problem of Determining the Azimuth to the Epicenter," V. I. Keylis-Borok, S. D. Kogan

"Trudy Geofiz Inst, Ak Nauk SSSR" No 14 (141), pp 21-28

Describes a method of detg the azimuth to the epicenter according to observations of transverse waves.

230T65

USSR/Geophysics - Earthquakes

KOGAN, S.D.

Mar/Apr 53

"Transparent Graph Paper for Determining the Dynamic Parameters of Foci of Earthquakes," S. D. Kogan and L. N. Malinovskaya, Geophys Inst, Acad Sci USSR

"Iz Ak Nauk SSSR, Ser Geofiz", No 2, pp 131-147

Proposal that subject transparent sheets be employed for determining dynamic parameter of earthquakes by using V. I. Keylis-Borok's method, which makes it possible to evaluate the accuracy of interpretation and to select the best system of original data.

254 T77

KOGAN, S. D.

KHARIN, D.A.; KEYLIS-BOROK, V.I.; KOGAN, S.D.

Methods of seismic observations in an epicentral zone and their interpretations. Trudy Geofiz.inst. no.21:27-48 '53. (MLRA 7:5)
(Seismology--Observations)

KOGAN, S. D.

USSR / Geophysics - Earthquakes

Card 1/1 Pub. 22 - 12/40

Authors : Kogan, S. D.

Title : Regarding the deep earthquake mechanism

Periodical : Dok. AN SSSR 99/3, 385-388, Nov 21, 1954

Abstract : Methods for determining the dynamic parameters of deep earthquake centers of the Pacific Ocean and Central Asia are considered. Keylis-Borok's method for basic interpretations of the observed earthquake phenomena was used. Experimental data were augmented by the addition of the reflecting-wave concept. Data observed in ten of the Pacific Ocean earthquakes and those in earthquakes in Hindu-Kush are analyzed. Three references; 2-USSR and 1-Foreign (1936-1951). Tables; diagrams.

Institution : .....

Presented by : Academician G. A. Gamburtsev, May, 1954.

TRANS-DRB, Canada T 201 R

KOGAN, S. D.

USSR/Physics of the Earth - Seismology, O-3

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36379

Author: Kogan, S. D.

Institution: Geophysics Institute, Academy of Sciences USSR, Moscow

Title: Dynamic Parameters of the Foci of Deep Earthquakes

Original Periodical: Tr. Geofiz. in-ta AN SSSR, 1955, No 30, 30-81

Abstract: Using the V. I. Keylis-Borok method as a basis, a procedure was worked out for the study of the mechanism of deep earthquakes and investigation of the dislocations in the foci of the Pacific Ocean and in Hindukush. For the Pacific earthquakes, the observations of all the stations in the USSR on the direct waves pertain practically to a single arbitrary point (rays of straight waves in the hypocenter have a nearly equal direction). However, if the reflected waves are introduced into the interpretation, one can trace rays that have sufficiently wide variations of azimuth and slope. Plots and tables are compiled to take into account the

Card 1/3

USSR/Physics of the Earth - Seismology, O-3

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36379

Abstract: effect of the earth's crust on the sign and the intensity of the 3-dimensional seismic waves and to determine the slope of the rays of various waves (P, S, pP, PP, PS, PcP, sP) in the hypocenter and at the point of emergence to the surface. To provide a base for the identification of the phases, an experiment was made in phase correlation of remote earthquakes: seismograms of different stations were compared on a single drawing. The like components of displacement in the same waves are correlated relatively well, sometimes even better than the different components of displacement in the same wave at the same station. The worst correlations are between the different waves, but it is possible to identify the extremes even for them. A thorough analysis and correlation of the form of the recording make it possible to separate weak arrivals of exchange waves, formed at the boundaries of the earth's crust, and to determine in this manner the depth of these boundaries with the aid of special tables listed in the work. In many cases the phase correlation made it possible to correct the dynamic parameters of the foci. The dislocations are determined in foci of 29 deep earthquakes in the Pacific Ocean (from the Aleutians to the

Card 2/3

KOGAN S. D.

USSR/ [illegible] - Tectonics

Card 1/1 Pub. 22 - 16/51

Authors : Kogan, S. D.

Title : The existence of a plutonic focal surface on the boundary of the Pacific Ocean

Periodical : Dok. AN SSSR 101/1, 63-64, Mar 1, 1955

Abstract : Geological data are presented regarding the seismic zone of the Pacific Ocean and Central Asia. The general characteristic of the zones investigated is the presence of two separate foci groups, whereby the less deeper foci are situated close to the forward crest and the deeper ones are shifted toward the platforms. Seven USSR references (1946-1954). Graphs [illegible]

Institution : .....

Presented by : Academician G. A. Gamburtsevich, May 24, 1954

TRANS. DRB, Can. T-200R

KOGAN, S.D.

Card Pur. 22 - 18/52

Authors : Kogan, S. D.

Title : The application of the phase correlation principle to distant earthquakes

Periodical : Dok. AN SSSR 101/4, 653-655, Apr 1, 1955

Abstract : A method of applying the phase correlation principle, defined in another author's work, to the study of distant earthquakes is described. The phase correlation principle is ... the secondary (earthquake) waves which may help in a better understanding of the structure of the ... Five ... references ... Graphs.

... AN, the Institute ...

Presented by: Academician G. A. Gamburtsev, May 24, 1954

KOGAN, S.D. Candidate of Physicomathematical Sciences and KEYLIS-BOROK, B.I., Prof.

"Investigation of the mechanism of earthquakes", a paper given at the 50th Anniversary Session of the Seismic Station "Pulkovo", 25-29 Sep 1956, Leningrad.

SUM. 1322

KOGAN, S.D.

Determining the dynamic parameters of earthquake foci approximately equivalent to the combined sources. Izv.AN SSSR.Ser.geofiz. no.5: 584-594 My '56. (MLRA 9:8)

1. Akademiya nauk SSSR, Geofizicheskiy institut.
(Seismometry)

KOGAN, S.D.

GOTSADZE, O.D.; KIRILLOVA, I.V.; KOGAN, S.D.; KUKHTIKOVA, T.I.; MALIKOVSKAYA, L.N.; SORSKIY, A.A.; KEYLIS-BOROK, V.I., doktor fiziko-matematicheskikh nauk, otvetstvennyy redaktor; ZAYTSEV, L.P., redaktor izdatel'stva; EZ, V.V., redakter izdatel'stva; SHEVCHENKO, G.N., tekhnicheskiy redakter.

[Investigation of the mechanism of earthquakes] Issledovanie mekhanizma zemletriasenii. Moskva, Izd-vo Akademii nauk SSSR, 1957. 148 p. (Akademiia nauk SSSR. Geofizicheskii institut. Trudy, no.40). (MIRA 10:10)

(Seismology)

SOV/169-59-3-2207

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 3, p 21 (USSR)

AUTHORS: Keylis-Borok, V.I., Kogan, S.D.

TITLE: An Investigation of the Earthquake Mechanisms

PERIODICAL: Byull. Soveta po seysmologii AS USSR, 1957, Vol 16, pp 96-99

ABSTRACT: This is a brief survey of the work of Soviet authors on the mechanisms of earthquakes. The analysis of the investigation results of about 300 earthquakes in the main seismoactive zones of the USSR and adjacent regions leads to the following preliminary conclusions: 1) The predominant properties of dislocations in the earthquake source vary sharply with the transition from one tectonic section to another one. There is also no direct link of dislocations in individual sources with local tectonic surface fractures. 2) In regard to the strike of the basic structures, the predominant strike of dislocation is transverse for the NW part of the Pacific Ocean, Dagestan, the Akhalkalakskoye highlands, and longitudinal for the Ashkhabadskiy rayon. But in the majority of zones (Garmskaya oblast', Tien Shan,

Card 1/2

KOGAN, S. D., PASECHNIK, I. P., SUTTANOV, D. D.

"Seismic Observations of Soviet Stations in Antarctia."

Paper Presented at CSAGI Meeting, 30 Jul - 9 Aug 58, Moscow
Available in Library

~~3 (10)~~ 3.9300

68160

AUTHORS: Kogan, S. D., Pasechnik, I. P., Sultanov, D. D. SOV/20-129-6-23/69

TITLE: Difference in the Periods of Seismic Waves Which Are Excited in Underground Explosions and in Earthquakes

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 6 pp 1283-1286 (USSR)

ABSTRACT: The authors compare the data on the predominating periods of seismic vibrations in explosions and in surface earthquakes of equal intensity. On December 19, 1957, at 9.00 A. M. Greenwich time, 1000 tons of ammonite were exploded 30 km southeast of the railroad station of Arys' (Tashkent line) (φ = 42°12'15" N, λ = 69°03'02",59 E) for scientific purposes. This charge was fixed in a depth of 40 m in a shaft chamber (in clay layers). On March 25, 1958 3100 tons of ammonite were exploded at 9.00 A. M. Greenwich time in the rayon of Pokrovsk Uralsk (φ = 60.2°N, λ = 59°,9 E) for the purpose of blasting out a river channel of, together, 1100 m. In the USSR the explosions were recorded by broad-band seismographs designed by D.P.Kirnos (SK), by more sensitive modernized seismographs, and also by

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Difference in the Periods of Seismic Waves Which Are Excited in Underground Explosions and in Earthquakes

SOV/20-129-6-23/69

other instruments. The present paper is based mainly on measurements with SK. In the case of underground explosions all types of waves were recorded which are excited in the case of earthquakes with their origin in a granite layer. At the stations with epicentral distances of up to 1000 km, the following front waves broken on the boundaries of the Earth's crust were recorded in the explosions: sedimentary layer - granite layer ($\overline{P},\overline{S}$), granite layer - basalt layer (P^*, S^*); the Mohorovičič boundary (P_n, S_n) and also surface waves. Ye. M. Butovskiy et al. (Ref 1) wrote a report on the hodographs of volume waves produced by heavy explosions and on the structure of the Earth's crust in (Soviet) Central Asia. At epicentral distances of more than 1100 km direct longitudinal waves P, direct transversal waves S, and also surface waves S were recorded. Pictures of the recorded waves are shown in figure 1. At the same epicentral distance the period of the surface wave in the explosion is 5 times as small as the period of a surface wave in an earthquake. The authors also dealt with earthquakes near the surface which were recorded at the station Frunze during the first half year.

Card 2/4

Accordingly, the periods of volume waves do not or only slightly depend on the epicentral distance, on the depth of the center, and on intensity. In the case of epicentral distances of from 100 to 1000 km the periods of the longitudinal waves in most cases are 0.6 to 2.0 sec, in explosions 0.2 to 0.8 sec. The periods of transversal earthquake waves at epicentral distances of up to 1000 m are from ~1 to approximately 3 - 4 sec. In surface waves recorded by a broad-band seismograph of the type SK the difference in the periods of earthquakes and explosions is the greatest. V. I. Keylis-Borok (Ref 4) presumed that surface waves in explosions must have smaller periods because of the difference in center dimensions than surface waves in earthquakes, providing that the periods of body waves and their energy are equal in both cases. This conlcusion is confirmed by other considerations. The data obtained here furnish a new criterion for the purpose of clearly distinguishing between explosions and earthquakes. There are 4 figures and 4 references, 3 of which are Soviet.

68160

Difference in the Periods of Seismic Waves Which Are Excited in Underground Explosions and in Earthquakes

SOV/20-129-6-23/69

ASSOCIATION: Institut fiziki Zemli im. O. Yu. Shmidta Akademii nauk SSSR (Institute of Physics of the Earth imeni O. Yu. Shmidt of the Academy of Sciences of the USSR)

PRESETNED: September 16, 1959, by N. N. Semenov, Academician

SUBMITTED: September 16, 1959

Card 4/4

69095

S/049/60/000/03/002/019
E131/E691

AUTHOR: Kogan, S.D.
3.9300

TITLE: Travel-Times of Longitudinal and Transverse Waves Calculated from Data of Nuclear Explosions Carried Out in the Marshall Islands

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1960, Nr 3, pp 371-380 (USSR)

ABSTRACT: The calculations were based on the following: the seismograms of Soviet stations, the seismic bulletins of various countries, published literature (Refs 2-9) and on the data (Table 1) published by the Seismological Society of America (Ref 10). The results of analysis are given in Table 2, where Δz° - azimuth with an accuracy of 5°, Δ - epicentric distance, t_p - travel-time of P-wave, η_p - total correction (Refs 11 and 12), δt_p - difference between the corrected travel-time of the P-wave ($t_p + \eta_p$) and the corresponding travel-time according to Jeffreys and Bullen (Ref 1), δS - deviation of the mean value of δt_p from that of individual observation stations. The relationships between δt_p and the azimuth and the epicentric distance are given in Figs 1 and 2, respectively. It was found that the travel-times of P-waves are smaller by 2 sec, of PP-waves smaller by 5 sec,

Card 1/2

69095
S/049/60/000/03/002/019
E131/E691

Travel-Times of Longitudinal and Transverse Waves Calculated from Data of Nuclear Explosions Carried Out in the Marshall Islands

of PcP-waves smaller by 3 sec, and of transverse waves greater by 4-5 sec than those given by Jeffreys and Bullen. Corrections to the longitudinal waves are due to the absence of granite layers in the Pacific, while the transverse-wave corrections are probably due to velocities of S-waves in the upper parts of the mantle being smaller than the currently accepted values. There are 2 figures, 5 tables and 15 references, 1 of which is Soviet, 1 French and 13 English.

ASSOCIATION: Akademiya nauk SSSR, institut fiziki zemli (Academy of Sciences USSR, Institute of Physics of the Earth)

SUBMITTED: March 25, 1959

Card 2/2

32021
S/619/60/000/015/001/004
D039/D112

3.9300 (2406, 1019, 1109, 1327)

AUTHORS: Pasechnik, I.P., Kogan, S.D., Sultanov, D.D., Tsibul'skiy, V.I.

TITLE: Results of seismic observations during underground atomic and trinitrotoluene explosions

SOURCE: Akademiya nauk SSSR. Institut fiziki Zemli. Trudy, no. 15 (182), Moscow, 1960. Seysmicheskiy effekt podzemnykh vzryvov, 3-52

TEXT: The authors analyze seismic recordings, made chiefly in the USA and the USSR, of underground atomic explosions conducted in the USA under the names of Rainier, Tamalpays, Logan and Blanka [Abstracter's note: The English rendition of Tamalpays and Blanka could not be defined] on the test site in Nevada in 1957 and 1958, and underground trinitrotoluene explosions carried out in the Kabulsay region of the Arys' section of the Tashkentskaya zheleznaya doroga (Tashkent Railroad) on December 19, 1957, and in Pokrovsk-Ural'skiy on March 25, 1958, in order to examine the possibility of detecting and identifying underground atomic explosions. The seismic recordings of the Blanka and Logan explosions were conducted at Soviet seismographic stations

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with the aid of СВК-М (SVK-M) type seismographs having a pass band of 0.2 - 2.0 seconds. Seismograms obtained by СВК (SVK), СГК (SGK) and СГК-М (SGK-M) seismographs were also used in the investigations. The SVK-M and SGK-M seismographs have been described by I.P. Pasechnik and N.Ye. Fedoseyenko (Ref. 8: "Izv. AN SSSR, seriya geofiz.", No 12, 1959.) and F.I. Monakhov, I.P. Pasechnik and N.V. Shebalin (Ref. 13: Seysmicheskiye stantsii SSSR rabotayushchiye po programme MGG [Seismic stations of the USSR working under the IGY program], Izd-vo AN SSSR, 1959.). The authors conclude that the vibrations produced by these explosions can be detected at fairly long distances from the place of explosion. Thus, nuclear explosions with a force of 19 kt were detected up to a distance of more than 16,000 km (by means of the SVK-M seismograph), and chemical explosions with a force of 3 kt - up to 9,000 km (by means of the Benioff seismograph). In the first arrivals, the P_n longitudinal waves were recorded at epicentral distances of 200 - 1100 km, the P waves at 1,200 - 10,100 km and the PKP waves - at an epicentral distance of more than 16,000 km (at the Soviet seismic stations at Mirnyy and the Banger Oasis in the Antarctic). In the case of atomic explosions, the S and S* transverse waves were identified on the recordings of the Benioff seismograph within an epicentral-distance range of 200 - 500 km. Sur-

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face waves were recorded at distances of 2,000 - 3,000 km. In a chemical explosion with a force of 3 kt carried out in Pokrovsk-Ural'skiy, the S direct transverse wave was recorded at an epicentral distance of 2,300 km by means of the Benioff seismograph. In the first arrival of the longitudinal wave, the motion direction corresponding to the compression phase was recorded at epicentral distances of up to about 700 km for the Logan explosion and up to 1,000 km for the Blanka explosion by a Benioff seismograph operating in a special network of stations. The amplitude corresponding to the compression phase is of a small intensity. By correlating the initial part of the recording, it was determined that the absence of the compression phase at great epicentral distances is associated with the loss of the first extremum. Probably this loss is connected both with the rapid attenuation of high-frequency oscillations characteristic for underground explosions, as well as with the distorting effect of the equipment used. In order to distinguish explosions from earthquakes by the first arrivals, a method adopted for studying the earthquake mechanism should be used. In contrast to normal earthquakes, the distribution of the signs of the Logan and Blanka explosions does not permit drawing nodal lines. According to the Benioff seismograph recordings, the period of the P_n and P* longitudinal waves changes at epi-

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central distances of 200 - 1,000 km from 0.5 to 0.8-1.0 seconds during atomic explosions, and according to the D.P. Kirnos seismograph - from 0.2 to 0.8 seconds during chemical explosions. In the case of earthquakes of approximately the same energy level, this period varies between 0.6 and 2.5 seconds (according to recordings of the D.P. Kirnos seismograph). In the case of atomic explosions, the period of S_n and S* transverse waves changes from 0.6 to 1.2 seconds at epicentral distances of 200 - 500 km (Benioff seismograph). During earthquakes of approximately the same energy level, this period changes from 1 to 4 seconds at epicentral distances of 100 - 1,000 km (D.P. Kirnos seismograph). Consequently, in underground explosions, the periods of the volumetric waves are somewhat shorter than in earthquakes of the same energy level. The Benioff seismograph recordings show that during atomic explosions the period of the surface waves at epicentral distances of 100 - 500 km is the same as that for transverse waves and amounts to 0.7 - 1.2 seconds. At epicentral distances of 500 - 2,000 km, periods of 2 - 3 seconds were recorded by seismographs with a wider pass band than the Benioff seismograph. A comparison of the surface-wave periods recorded

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by the D.P. Kirnos seismograph during chemical explosions and earthquakes of the same energy level showed that these periods are essentially different. During chemical explosions this period equals 2.0 ± 0.5 seconds and scarcely varies with distance. At an epicentral distance of about 1,000 km it is 4 times shorter than the surface-wave period in earthquakes. A curve representing the dependence of the surface-wave period on the distance during earthquakes is expressed according to the data of S.L. Solov'yev and N.V. Shebalin (Ref. 12: "Izv. AN SSSR, seriya geofiz.", No 7, 1957.) by the formula $T \approx 0.85\sqrt[3]{\Delta}$. This curve and a corresponding curve for the Arys' explosion are given in the paper. Observations conducted at the Frunze station agree with this dependence. It is stated that the surface-wave period may serve as one of the criteria for recognizing the recording of an explosion among earthquake recordings. The character of the change in the oscillation amplitude with an increase of the epicentral distance is different for various waves. For atomic explosions with a period T = 0.5 ÷ 0.7 seconds the P_n wave amplitude decreases with distance according to the law

$$A_i \approx A_0 \left(\frac{\Delta_i}{\Delta_0}\right)^{-2} e^{-0.0025(\Delta_i - \Delta_0)}.$$

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For the P wave, the character of the change in the oscillation amplitude is more complicated. Within a range of 1,200 - 2,500 km the amplitude values are less than the values at large epicentral distances; considerable dispersion of these values was observed in the above-mentioned range. In the P wave, the maximum amplitude value was found at a distance of about 2,500 km after which it gradually decreased with an increase in the epicentral distance. A detailed analysis of these changes of the amplitude of the P wave was conducted by Yu. V. Riznichenko (Ref. 10: O seysmicheskikh magnitudakh podzemnykh yadernykh vzryvov [On the seismic magnitudes of underground atomic explosions], in the present source, 53-87.). During both atomic and chemical underground explosions, the character of the seismic recordings, the type of the recorded waves, the predominant oscillation periods, etc., are practically the same. Ignoring the difference in the ground conditions at the place of the explosion, the seismic effect during chemical explosions is approximately 2-4 times greater than during atomic explosions. Experimental verification of the efficiency of a control system may be conducted with the aid of explosions of common explosives. Discussing the determination of the epicenter

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coordinates, the authors mention a method proposed by Ye.F. Savarenskiy (Ref. 11: Ye. F. Savarenskiy, D.P. Kirnos, Elementy seysmologii i seysmometrii [Elements of seismology and seismometry], Gostekhizdat, M. - L., 194?.) for locating an earthquake epicenter by the absolute moments t_1, t_2, t_3 of the arrivals of the P longitudinal wave at three seismic stations. The location of the epicenter of the Blanka and Logan explosions on the basis of the data of stations surrounding the epicenter is determined over an area of 300 km^2 by using the averaged Jeffreys-Bullen hodograph, i.e. when the regional hodograph is unknown. If the regional hodograph is used, the accuracy of location of the epicenter determination should be increased. V.I. Keylis-Borok is mentioned. There are 25 figures, 14 tables and 35 references: 13 Soviet-bloc and 22 non-Soviet-bloc. The four most recent references to English-language publications read as follows: AEC Releases Data on Hardtack Bomb Tests, Tuesday, March 10, 1959.; Disarmament and Foreign Policy Hearing Before a Subcommittee on Foreign Relations US Senate. 96 Congress 1 Session. Pt. 1. January 28, 30 and February 2, 1959, Washington, D.C. US Government Printing Office. Washington, 1959.; D.S. Carder, W.K. Cloud. Surface Motion from Large Under-ground explosions. "Journ. Geophys. Res.", 64, No 10, 1959.; K.F. Romney. Amplitudes of Seismic Body Waves from Underground Nuclear Explosions. "Journ. Geophys. Res.", 64, No 10, 1959.

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AUTHORS: Kogan, S. D., Pasechnik, I. P., and Sultanov, D. D.

TITLE: Seismic observations in the Antarctic

PERIODICAL: Akademiya nauk SSSR. Seriya geofizicheskaya. Izvestiya, no. 2, 1961, 231-237

TEXT: The authors interpret the results of seismic observations carried out as part of the IGY program at the Mirnyy and Oazis stations in Eastern Antarctica from June 1956 to December 1959. This interpretation is a continuation of previous work by the authors (Ref. 1: Seysmicheskiye nablyudeniya Sovetskikh seysmicheskikh stantsiy v Antarktike (Seismic Observations of Soviet Seismic Stations in Antarctica) Sb. "Seysmicheskiye i glyatsiologicheskiye issledovaniya v period mezhdunarodnogo geofizicheskogo goda" Izd. AN SSSR, 1959) which gives a detailed map of earthquake epicenters for 1956 and 1957 based on their own data and material provided by the International Seismological Bureau and the Seismological Division of the US Coast and Geodetic Survey. One feature of the work at the Mirnyy and Oazis stations during this period is the

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absence of nearby earthquakes, apart from some oscillations recorded in August 1958 which were the probable result of various kinds of ice movement. As has been noted by F. I. Monakov, I. P. Pasechnik and N. V. Shebalin (Ref. 2: Seysmicheskiye i mikroseysmicheskiye nablyudeniya na Sovetskikh stantsiyakh v period MGG (Seismic and Microseismic Observations at Soviet Stations During the IGY) Izd. AN SSSR, 1959), a distinctive characteristic of earthquakes recorded at the Mirnyy station is the rather large period of the body waves; over epicenter distances of 2000 - 3000 km the P wave has a period of 6 - 8 sec and the S wave of 9 - 13 sec. According to the data of V. L. Belotelov, N. V. Kondorskaya and Ye. F. Savarenskiy (Ref. 3: Ob opredelenii energii uprugikh voln, porozhdayemykh zemletryaseniyem, Izv. AN SSSR, ser. geofiz., No. 5, 1960) for Pacific earthquakes recorded at stations in the USSR on the same apparatus, the respective periods for P and S waves are 4 - 5 sec and 6 - 8 sec over epicenter distances of 20 to 80°. These seismic observations confirm the geological views of P. S. Boronov (Ref. 4:

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Strukturnaya skhema Antarktiki, Inform. byull. Sov. Antarkt. eksp., No. 1, 1958) concerning the existence of a girdle of Alpine folds around the main East Antarctic Platform, since this zone coincides with the areas of earthquake epicenters shown in Fig. 3. But Boronov's opinion that active uplift is taking place along the littoral zone of the platform is somewhat of an enigma in view of the lack of earthquakes in Eastern Antarctica during the last 3½ years. The comparatively constant directions of the first P-wave movements indicate that tectonic processes along the whole girdle of Alpine fold-structures are mainly taking place in the same direction. During three earthquakes in November 1956, July 1958 and October 1958 one of the steeply-dipping nodal planes for the P wave had a latitudinal trend and the other a meridional trend. It would thus appear that the southern side of the latitudinally-trending fold-structures is rising, although data from a greater number of earthquakes are required to substantiate this assumption. Rayleigh and Love waves recorded in 27 earthquakes were compared with the theoretical curves cited by F. F. Evison, C. E. Ingham

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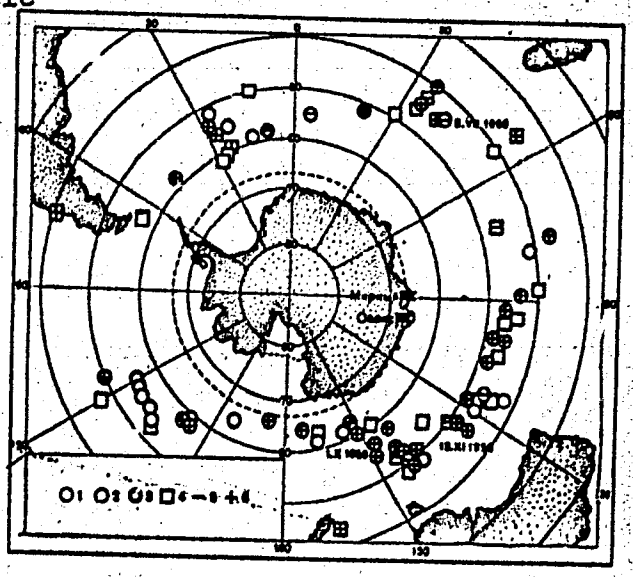
Fig. 3. Epicenters of Antarctic earthquakes with an indication of the magnitude of M and the direction of the first movement of the P wave at Mirrnyy and Oazis 1 - $4 < M < 5$, 2 - $5 < M < 6$, 3 - $M > 6$, 4 - M not known; the first arrival of the P wave corresponds to a wave of compression (+) and to a wave of rarefaction (-)



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and R. H. Orr (Ref. 5: Thickness of the Earth's Crust in Antarctic, Nature, 183, No 1, 1959) in order to determine the crustal structure of Antarctica. The theoretical and observational data for waves of a group of 15 earthquakes with foci to the north, west and east of Mirnyy are given graphically. The scattering of the Rayleigh and Love waves implies an oceanic-type crust with a probable thickness of some 7 - 20 km in the area between the earthquake foci and the recording station. The waves of the other group of earthquakes travelled beneath both land and sea areas before reaching Mirnyy. The scattering of Rayleigh and Love waves during their passage beneath land and sea areas is also given graphically and would appear to suggest that the waves passed through an oceanic-type crust with an approximate thickness of 9 km and a continental-type crust with a thickness of around 40 km. Thus, the obtained results indicate that Eastern Antarctica is part of the whole Antarctic continent while the crustal structure of the area between the Antarctida and Alpide folds is typical of oceans. The authors conclude

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